

Recd July 19th
Aug 8 - 21st
31st

Oconto Wis July 16th, 63
Dr Geo Engelmann,

Sir,

I send you today
to Lucco boat a box of
specimens of *P. Banksiana*
& *P. resinosa* which I trust
will reach you all right
by express.

Will write you a few
notes on those and other
as soon as I get time
species sent to me at
Oconto Wis and if you
get this with the box
and let me know of the
specimens are such as you
desire and if you want
more or fewer of them
Yours &c

E. P. Austin
Assistant U.S. Lake Survey



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Reo: Aug 12th

Mr. Meahan
Jenntown
O. pingens

Dear Sir,

Oconto Aug 7th 1863

larch cones

In answer to your question I may say first that not many comparatively of the cones do not open those which do not ^{have} ~~are~~ mostly abortive seeds. When I first came here the latter part of June and even when I sent you those specimens in July not many of the cones which ripened last fall had begun to open now however it is difficult to find any which are not open. Few if any of the cones open the second fall but if picked in the fall they open and shed their seeds during the winter at least that was the case with some



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cones I collected last fall on
the shore of Lake Huron.

The cones are all persistent
for many years in fact
it is an exception to find
a cone which has fallen off
and if the trees were as tall
as P. Strohers it would be
difficult to get cones without
cutting down the trees.

It is quite possible that some
of the cones may be frost-
bitten but I have seen
nothing to warrant such
a conclusion.

I sent you the other day
some specimens of a Spruce
which appears to be
Abies alba but forgot
to say that it grew in
a thin stratum of reddish
clay on limestone on entirely
different soil from that



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of this side of the Bay
The principal timber in
the vicinity was oak and
other deciduous trees with
occasional trees of *Prinus*.
Strabrus, *P. resinosa*, *Ailanthus*
Canadensis & *A. halsomea*.

You have noticed that
the young cones of *S. Banks-
iana* have peduncles about
 $\frac{1}{4}$ in which ~~the~~ the ripe
cones appear to be closely
sessile and I have seen cone
which were half buried in
the substance of the wood
which had been growing
around them for several
years. In one tree about
6½ inches in diameter there
are 31 rings of annual
growth in another about
the same size 27.



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Enclose some sterile flowers
which were picked ^{some} days
earlier than those I
sent you and in which
I think there is more and
better pollen than in the
others.

Yours truly
E. P. Austin

P.S. Direct your next
letter to Washington
D. C. Wis.

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Re Aug 16th

Oconto Aug 13 1863

Dr Engelmann,

Dear Sir,

Yours of the 9th,
including cone of *Picea nigra* is
at hand.

The cones of the tree I obtained
those specimens from were all
perichlaens. The soil is a reddish
clay on limestone ledges and
the allied trees are oaks, beech,
birch, and few *Pinus coniferae* in-
cluding *Abies balsamea* & *Canaden-
sis*, *Pinus strobus* & *resinosa*.

At this place I have only seen
a single shrub about 2 ft
high which proves to be *P.
nigra* at least the branches
are darker colored but not
pubescent and the plant lacks
the strong odor of *alba*.

The foliage is entirely diff



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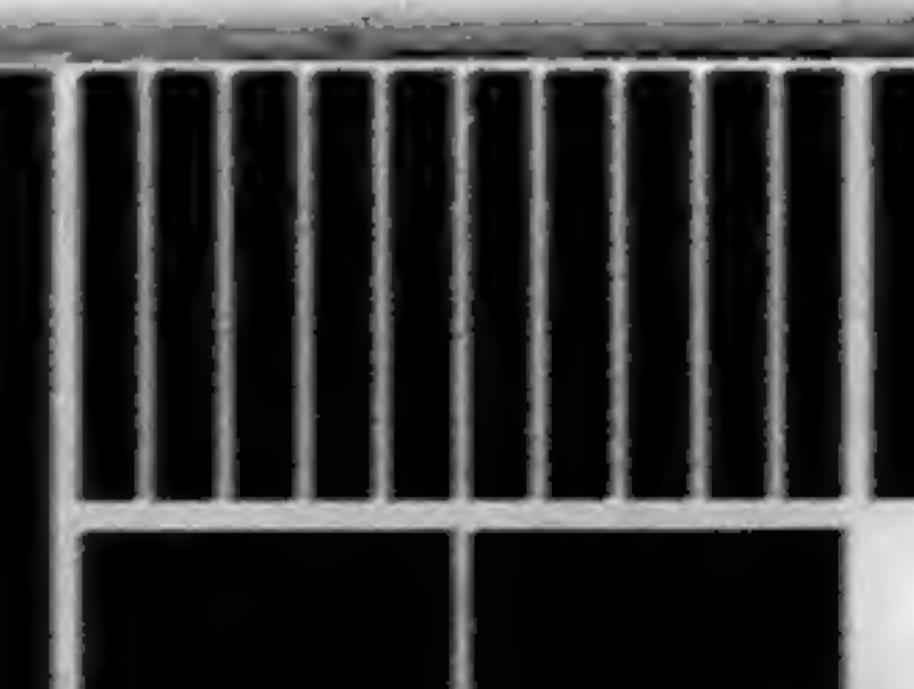
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I have seen logs of *Pinus Strobus* from up the river nearly 3 ft in diameter and have heard of cutting 120 feet of logs out of a tree which added to the top must make the tree 150 ft or more I have never seen trees over 90-100 ft. but have not been far enough up the river, *P. resinosa* I do not recollect to have seen more than 2-2½ ft. and it grows from 50-90 feet high. with the trunk generally free from branches to within 20 to 30 feet of the top when the branches make a sort of head.

I have seen specimens of *P. Banksiana* in which the cones were half buried in the wood of young vigorous trees and if I were to re-



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main here for a length of
time I could doubtless
collect specimens but they
are not common. and I am
going to leave to day or
to morrow.

You say the male anthers
had nearly all fallen off
the specimens of *Banksiana*
I sent you they must have
been jarred off by the con-
cession on the railroads
between here and St Louis
for now 3 $\frac{1}{2}$ and I think 10
of them are still on the trees
excepting that the flowers
are braver from exposure
there is very little differ-
ence in the trees from
what they were when I
first came to this place
nearly two months ago.
I enclose specimens in which



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the last years flowers and in
one those of two years ago
are still adhering and one can
find plenty ~~sach~~ ^{almost} on all the
trees. I also enclose a branch
of the Picea found at this
place

Direct to Washington
Harbor Daar Co Wis.

Yours

E. P. Austin

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MS. sp. 6.3



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Rec'd Apr 11
Ans June 22 Nautical Almanac Office
Washington April 6th 1867

Dear Sir,

I suppose you have got all the specimens of all the pines which occur in these parts you need. Do you need any Junci from about here?

If you do and will let me know what species you desire I will collect for you this summer. I have quite a lot of Junci from Michigan and Mass. but they ^{are} ~~were~~ not very well preserved and unless there should be some rare forms among them I suppose they would not be of much service to you.

In case there is anything else in this vicinity which you desire I will try to collect for you as I shall have some



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leisure time this summer and
intend to collect about here pretty
extensively

Yours truly
E. P. Austin.

Geo Engelmann M.D. }
St Louis Mo }

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